

CGI SecureDataFabric™ Enabling Mission-Critical Data Integrity



The emerging hybrid space architecture must use data from multiple sources with varying degrees of data provenance.

Defense, intelligence, private sector and international partners contribute to the hybrid space architecture. To ensure resilience and persistence, integration of commercial remote sensing becomes mission-essential. However, commercial sources may also open a new attack vector to our adversaries where traditional cybersecurity solutions may not be enough. For this synergy to work, the systems must prevent bad actors from penetrating military systems, where they could modify important data such as coordinates or insert and delete objects within an image. Preserving data provenance is essential.

The solution lies in enterprise-level digital transformation using blockchain technology together with attribute-based access control (ABAC), which uses a combination of attributes about a user to grant or deny access. This approach enables secure data management regardless of source complexity or user base.

CGI SecureDataFabric Defined

CGI SecureDataFabric™ is a specifically-designed software platform that provides information-seekers with the insights they need while simultaneously allowing data owners to maintain and manage full control. Designed for on premise or in the cloud, the solution is configurable for any application that needs to provide secure data access to end users, other systems or agencies.

The SecureDataFabric platform enables efficient data sharing and discovery of data across and between agencies, networks and systems with robust traceability, auditability and discovery. This includes validation access without the need for a centralized single party controlled data repository (integrated data repository or data lake). Data can be transferred safely without sacrificing data integrity, authority and non-repudiation.

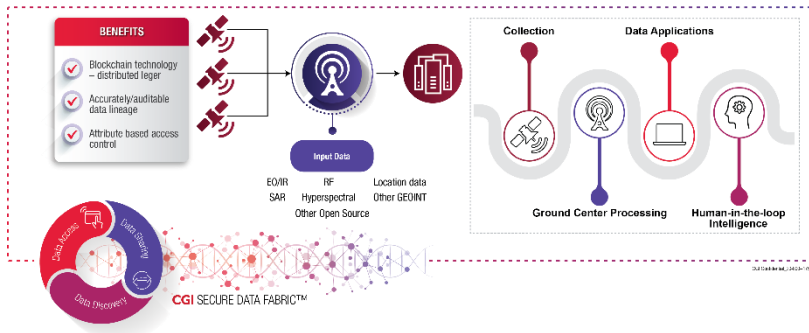


Agencies need to share data without duplication while ensuring authenticity to:

- **Maintain chain of custody and enable data owners to define how to share their data internally or externally**
Organizations and data need complete transparency on users and how the information is used.
- **Empower the need-to-share safely and employ a zero trust policy with digital signature**
Agencies need to control and understand who has access to sensitive information with machine learning (ML)-controlled access to ensure user integrity. Locking down data through security policies and user access privileges is extremely complex, builds in delay and discourages allowable information sharing.
- **Access critical information at the right time and enable rich search and discovery capabilities**
When timing is crucial, the operator must know what data is available and useful to users. Data lakes and data warehouses may hamper quickly finding the right piece of information.

SecureDataFabric's Enabling Technology

SecureDataFabric earns its name from the effects of its core enabling technologies – blockchain and ABAC. Combining these technologies creates a secure environment that is ideal for data sharing, access and discovery across multiple security environments.



Supporting the Hybrid Architecture

The U.S. and its allies rely on space for economic well-being and national security. Satellites provide communications, navigation, timing for computers, earth observation, life-saving weather information and intelligence needed to understand potential adversaries' actions. Even as more satellites are launched every day, nations are threatening to deny the U.S. the use of space by degrading or destroying satellites.

The fact of a congested and contested environment has led to the need for a hybrid architecture as a means of providing real-time information based on all available data, including non-traditional commercial sources. To achieve effective resilience and persistence, U.S. and allied governments need a solution that permits access to a wide variety of sources from space- and ground-based sensors while maintaining an immutable chain-of-custody of the data.

The unique combination of blockchain and ABAC provided by SecureDataFabric ensures that organizations needing government and commercial sources can get it – securely – on time, every time.

SecureDataFabric enables real-time secure access to any type of data that an end user is authorized to see and ensures that they cannot see anything else.

CGI's alignment with U.S. space policies

- Safeguarding unfettered use of space
- Ensuring needed space capabilities are integrated and available to all U.S. combatant commands
- Improving data interoperability
- Enabling greater data sharing
- Developing standards and best practices

About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

Operating in hundreds of locations across the globe, CGI delivers an end-to-end portfolio of capabilities, from strategic IT and business consulting to systems integration, managed IT and business process services and intellectual property solutions. CGI works with clients through a local relationship model complemented by a global delivery network to help clients achieve their goals, including becoming customer-centric digital enterprises.

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